

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

REC'D 27 FEB 2003

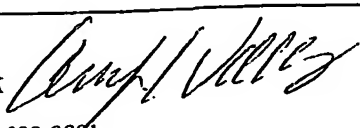
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Applicant's or agent's file reference 921042.430PC	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/US02/03192	International filing date (day/month/year) 04 FEBRUARY 2002	Priority date (day/month/year) 08 FEBRUARY 2001
International Patent Classification (IPC) or national classification and IPC Please See Supplemental Sheet.		
Applicant ARIZONA CHEMICAL COMPANY		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 4 sheets.
- ☐ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority. (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).
- These annexes consist of a total of _____ sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of report with regard to novelty, inventive step or industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand 21 AUGUST 2002	Date of completion of this report 31 JANUARY 2003
Name and mailing address of the IPEA/US Commissioner of Patents and Trademarks Box PCT Washington, D.C. 20231	Authorized officer JAMES SEIDLECK 
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INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/US02/03192

I. Basis of the report

1. With regard to the elements of the international application:*

☒ the international application as originally filed☒ the description:

pages 1-26, as originally filed

pages NONE, filed with the demand

pages NONE, filed with the letter of

☒ the claims:

pages 27-29, as originally filed

pages NONE, as amended (together with any statement) under Article 19

pages NONE, filed with the demand

pages NONE, filed with the letter of

☒ the drawings:

pages NONE, as originally filed

pages NONE, filed with the demand

pages NONE, filed with the letter of

☒ the sequence listing part of the description:

pages NONE, as originally filed

pages NONE, filed with the demand

pages NONE, filed with the letter of

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language which is:

☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).☐ the language of publication of the international application (under Rule 48.3(b)).☐ the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

☐ contained in the international application in printed form.☐ filed together with the international application in computer readable form.☐ furnished subsequently to this Authority in written form.☐ furnished subsequently to this Authority in computer readable form.☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.4. ☒ The amendments have resulted in the cancellation of:☒ the description, pages NONE☒ the claims, Nos. NONE☒ the drawings, sheets/fig NONE5. ☐ This report has been drawn as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17).

**Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

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V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. statement

Novelty (N)

Claims	<u>1-27</u>	YES
Claims	<u>NONE</u>	NO

Inventive Step (IS)

Claims	<u>NONE</u>	YES
Claims	<u>1-27</u>	NO

Industrial Applicability (IA)

Claims	<u>1-27</u>	YES
Claims	<u>NONE</u>	NO

2. citations and explanations (Rule 70.7)

Claims 1-27 lack an inventive step under PCT Article 33(3) as being obvious over PHILLIPS, Jr. et al U.S. Patent 6,072,009.

PHILLIPS, Jr. discloses a method for producing a crosslinked elastomer which comprises compounding a mixture of a vulcanizable elastomer, a sulfur source and from about 0.1 to about 6% by weight of a monomeric distillate by-product from the clay-catalyzed dimerization of tall oil fatty acids and heating the compounded mixture to a temperature sufficient to cause substantially crosslinking of the elastomer. PHILLIPS, Jr. discloses a method for producing a crosslinked elastomer and a compounding mixture which are similar to the present claims. A palmitic acid can be obtained in PHILLIPS, Jr. invention by a distillation process. The tall oil acids can have an acid value of 170 to 185 (column 5, lines 53-58) which would be within the range specified in the present claims. In the working examples at column 5, the total fatty acids can be present in the amount of 75 to 97 wt.%, unsaponifiables are present in the amount of 6.8 wt.%, column 5, line 58.

In PHILLIPS, Jr. reference the distillate by-product from the clay-based dimerization of TOFA is composed of a mixture of iso- or branched-chain fatty acids having the single double bond wherein a said monomeric distillate by-product is present in a relatively high degree contain, and a relatively small percentage of di- or poly-unsaturated fatty acids, column 3, lines 1-5 and 30-40.

The difference between the present claims and PHILLIPS, Jr. is the requirement in the present claim 1 that Tall Oil Heads (TOH) comprises 40-90 wt% of fatty acids and greater than 10 wt% of unsaponifiable materials.

It would have been obvious to one of ordinary skill in the art to use a method for producing a crosslinked elastomer in PHILLIPS, Jr. wherein the monomeric distillate by-product in PHILLIPS, Jr. includes mono-unsaturated fatty acids including a palmitic acid (Continued on Supplemental Sheet.)

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Supplemental Box

(To be used when the space in any of the preceding boxes is not sufficient)

Continuation of: Boxes I - VIII

Sheet 10

CLASSIFICATION:

The International Patent Classification (IPC) and/or the National classification are as listed below:

IPC(7): C08L 19/00, 21/00; C08C 19/20, 19/30 and US Cl.: 524/270, 271, 274, 484, 486; 525/343, 346, 386

V. 2. REASONED STATEMENTS - CITATIONS AND EXPLANATIONS (Continued):

and unsaponifiable material (column 5, lines 53-58), and wherein a relatively high contain of mon-unsaturated fatty acids can be selected within the range specified in the present claims. It would have been obvious to one of ordinary skill in the art to consider that the content of fatty acids and unsaponifiable material in PHILLIPS, Jr. can be controlled by the distillation process for obtaining the desirable content of distillation fractions and the amount of unsaponifiable material.

Claims 1-28 meet the criteria of PCT Article 33(4), because a product produced by a method for making a crosslinked elastomer can find utility in a tire industry.

----- NEW CITATIONS -----

NONE